

CSCE 585 Project Proposal

Intelligent In-Network Attack Detection

Sergio Elizalde, Amith GSPN, Samia Choueiri

Department of Integrated Information Technology
University of South Carolina

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Outline

- Problem Statement
- Proposed Solution
- Evaluation Metrics

Problem Statement

Cyberattacks are evolving, and more intelligent approaches are needed

- Traditional defenses alone are no longer sufficient, requiring adaptive and AI-driven security solutions.

Network speed is increasing, raising the need for in-network acceleration

- As data volumes grow, systems must process and respond in real time to keep pace with modern demands.

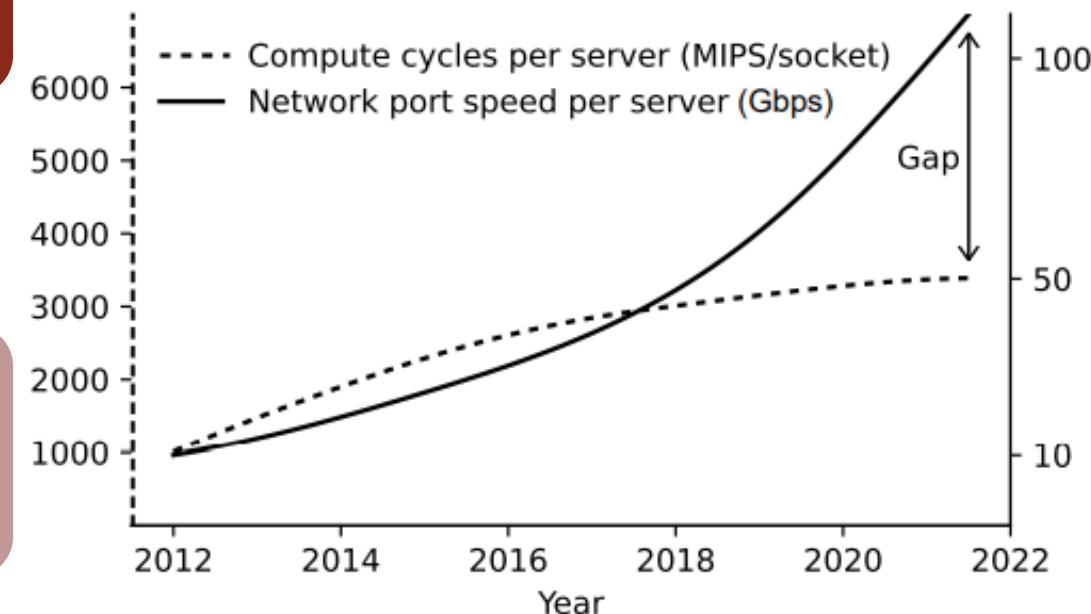
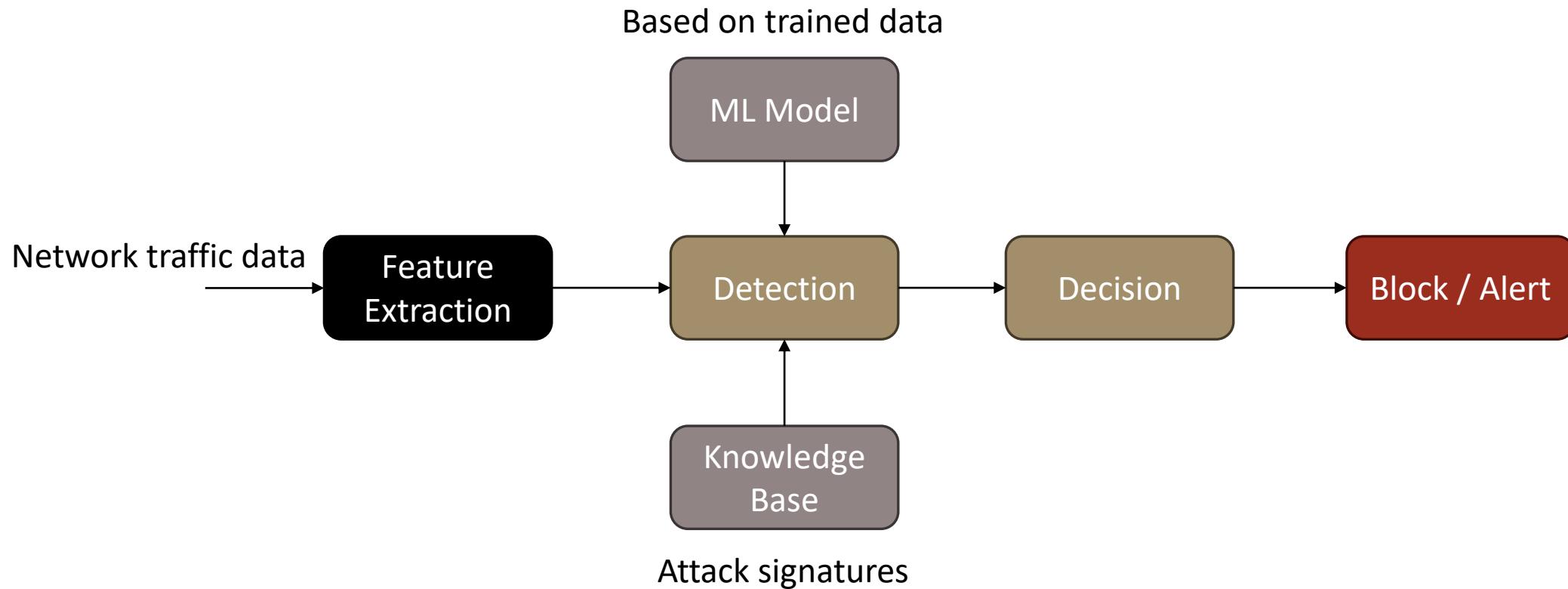


Figure: G. Elinoff, "Data centers are overloaded. The inventor of FPGAs is swooping in with a "comprehensive" SmartNIC," March 2020.

Proposed Solution



Evaluation Metrics

Accuracy

Deliver the most precise and reliable results possible with minimal misses and false alerts.

Inference Time

Achieve faster model execution without sacrificing quality.

Latency

Ensure rapid system responsiveness with minimal overall system delay.

THANK YOU!